

REMARKS

By the above amendment, independent claims 5 and 8 have been amended to essentially incorporate the features of dependent claims 20 and 21 therein, while further reciting the feature that the transparent electroconductive film is electrically connected to the apparatus so that a potential of the transparent electroconductive film is a same potential as a potential of the apparatus and enabling prevention of the electromagnetic wave inside of the processing chamber from leaking out through the measurement window, as described at page 22, lines 15 - 20 of the specification of this application. Applicants submit that such features are not disclosed or taught in the cited art, as will become clear from the following discussion.

As to the rejection of claims 5, 11, 12, 14, 16, 17 and 20 under 35 USC 103(a) as being unpatentable over Tsukazaki et al (US 5837094 A) in view of Gupta et al (US 6125789 A), Hamelin et al (US 6951821 B2) and Meder (US 6254689B1); and the rejection of claims 8, 9, 13, 19 and 21 under 35 USC 103(a) as being unpatentable over Tsukazaki et al (US 5837094 A) in view of Gupta et al (US 6125789 A) and Meder (US 6254689B1); such rejections are traversed insofar as the rejections are applicable to the present claims, as amended, and reconsideration and withdraw of the rejections are respectfully requested.

As noted above, each of independent claims 5 and 8 have now been amended to incorporate the features of dependent claims 20 and 21 therein while additionally reciting the feature that the transparent electroconductive film is electrically connected to the apparatus so that the potential of the transparent electroconductive film is the same as that of the apparatus and enabling prevention of the electromagnetic wave inside of the processing chamber, which electromagnetic wave is an electromagnetic wave applied for generation of plasma

inside of the chamber, and which is prevented from leaking out from inside of the processing chamber through the measurement window. That is, preventing, as described at page 22, lines 18 - 20 of the specification, the electromagnetic waves from leaking from the plasma generation space 13 so as to prevent influencing of the sensor and the human body by the electromagnetic wave.

In applying the cited art to the claimed invention, the Examiner sets forth the deficiencies of each of the references. More particularly, the Examiner at the middle of page 6 of the Office Action states:

None of Tsukazaki, Gupta, Hamelin and Meder teach that the claimed transparent conductive film and the plasma processing apparatus “have a same potential applied thereto” as claimed by claim 20. (emphasis added).

Similarly at the bottom of page 11 of the Office Action, the Examiner states:

None of Tsukazaki, Gupta, and Meder teach that the claimed transparent film and the plasma processing apparatus “have a same potential applied thereto” as claimed by claim 21. (emphasis added)

As noted above, the features of claims 20 and 21 have been incorporated into independent claims 5 and 8, respectively, while additionally reciting the feature of the electrical connection of the transparent conductive film and the plasma processing apparatus.

The Examiner lists what the references do not disclose or teach, and recognizing the deficiencies of each of the references with respect to the claimed features, contends that Meder teaches the claimed transparent conductive film and the function thereof, and it would have been obvious to one of ordinary skill in the art at the time the invention was made to add Meder’s reflection prevention film coating to Gupta’s measurement window and grounding both of Meder’s reflection preventing film coating and Gupta’s processing chamber. Further, the Examiner cites the decision of In re Best,

195 USPQ 430, 433 (CCPA 1977) for the proposition that when the structure recited in the reference is substantially identical to that of the claims, claimed properties or functions are presumed to be inherent, with the Examiner further citing MPEP §2112.01. Applicants submit that the Examiner has mischaracterized the cited decision and the manual provision, and contrary to the Examiner's position, the cited art does not provide the structure or function of the present invention, other than by a hindsight reconstruction attempt, which reconstruction attempt also fails to provide such features.

Turning the features of independent claims 5 and 8, which define an apparatus for plasma processing of a sample within a processing chamber, an electromagnetic wave is applied in the processing chamber for generating plasma for processing the sample within the chamber. In accordance with the present invention, as now recited in the claims, a measurement window is formed on a wall of the chamber of the plasma processing apparatus and is provided with a transparent electroconductive film which is electrically connected to the apparatus so that a potential of the transparent electroconductive film is a same potential as a potential of the apparatus and enabling prevention of the electromagnetic wave inside the processing chamber from leaking out through the measurement window. The Examiner recognizes that none of the cited art disclose such features, but apparently contends that such features are inherent based upon a disclosure of Meder.

Turning to Meder, while this patent may disclose a semiconductor processing chamber in which semiconductors are processed at some time, as for example, by plasma processing, Meder is directed to a system and method for flash photolysis cleaning of the processing chamber when no

plasma processing of a sample is effected. Thus, as illustrated in Fig. 1, and as described in column 3, lines 66 - column 4, line 52 of Meder, the cleaning system 10 as illustrated in Fig. 1, is comprised of a semiconductor processing chamber 20 having a window 25, and a wafer 27 is positioned outside the chamber 20 either before or after the wafer 27 is moved into the chamber 20 for processing, and a flow of incoming gas 17 enters the chamber 22 and inlet 15. A emitter 30 generating pulse UV radiation passes through the window 25 and the UV radiation is absorbed by the photoresist contamination 35 on the inside surface of the chamber, resulting in the heating of the contamination 35, so that volatile products, as well as any unreacted agent or incoming gas 17 comprise the gas stream 42 that exists the chamber 20 through the outlet 40 for cleaning purposes. Further, as described at column 5, lines 28 - 34, referring to Fig. 1, “an indium-tin oxide clear, conductive coating on the window 25 or on a quartz tube or on a separately inserted window between the emitter 30 and any wafers located inside the chamber 20 or any exposed wafers outside the chamber 20 could be used to shield the wafers from any ESD that might originate from the UV emitter 30” (emphasis added), noting that the UV emitter 30 is disposed outside of the chamber, and ESD represents electrostatic discharge originating from the emitter 30. Thus, applicants submit that Meder fails to disclose the plasma processing apparatus operating in the manner set forth, wherein an electromagnetic wave is applied within the chamber for generating plasma for processing of the sample within the chamber, and assuming arguendo that Meder provides an electroconductive film on a window, such coating, as clearly disclosed by Meder is for preventing electrostatic discharge originating from the UV emitter

which is outside of the chamber from reaching wafers outside of the chamber or possibly inside of the chamber. Thus, Meder, like the other cited art, does not disclose or teach an electroconductive film which prevents leakage of an electromagnetic wave utilized for generating plasma within the chamber from leaking out from the chamber through the measurement window, as recited in claims 5 and 8, and the dependent claims of this application. Further, as recognized by the Examiner, there is no disclosure or teaching in any of the cited art, including Meder, that the electroconductive film and the plasma processing apparatus have a same potential applied thereto, and further, there is no disclosure or teaching in the cited art, that the electroconductive film and the plasma processing apparatus are electrically connected to one another, as recited in claims 5 and 8 and the dependent claims. Thus, irrespective of the contentions by the Examiner, applicants submit that claims 5 and 8 and the dependent claims, as amended, recite features not disclosed or taught in the cited art in the sense of 35 USC 103 and all claims should be considered allowable thereover.

As noted above, the Examiner has engaged in hindsight reconstruction attempt and none of the cited art, as recognized by the Examiner, discloses the structure or function as recited. Thus, while the Examiner contends that it would be obvious to combine the cited art to provide the claimed features, applicants submit that contrary to the Examiner's position the cited art cannot be properly combined and cannot be properly combined to provide the recited features. Accordingly, all claims should be considered allowable thereover.

For the foregoing reasons, applicants submit that all claims present in this application should be in condition for allowance, and issuance of an action of a favorable nature is courteously solicited.

To the extent necessary, applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in the fees due in connection with the filing of this paper, including extension of time fees, to the deposit account of Antonelli, Terry, Stout & Kraus, LLP, Deposit Account No. 01-2135 (Case: 501.43537X00), and please credit any excess fees to such deposit account.

Respectfully submitted,

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